Valuation of Irrigation Water Rights on Poorman Creek Near Lincoln, Montana

Prepared for

Columbia Basin Water Transactions Program

By

WestWater Research, LLC
144 Railroad Ave, Suite 232
Edmonds, WA 98020

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Background and Purpose

The Clark Fork Coalition (CFC) is pursuing the permanent acquisition of several surface water rights to Poorman Creek, a tributary to the Blackfoot River located near Lincoln, Montana. The Montana Department of Fish, Wildlife, and Parks and the US Fish and Wildlife Service have identified Poorman Creek as one of the most important potential bull trout spawning tributaries on the upper Blackfoot. Low streamflows has been identified as a limiting factor in bull trout recruitment from Poorman Creek, and thus restoring and protecting streamflow on Poorman Creek has been a priority for basin stakeholders for the past 15 years.

Trout Unlimited's Montana Water Project (TU) has worked with the water rights owner since the early 2000s to increase flows in Poorman creek and the Blackfoot River. TU's bylaws do not allow it to own water rights outright, so CFC has stepped in as a partner in the transaction and will hold title to and manage the water rights acquired as part of the deal.

The water rights have historically been used to irrigate 340 acres. Working with TU, in 2003 the landowner converted the property from flood to center pivot irrigation which resulted in a significant reduction in irrigation diversions. As a result of the conversion, 15.11 cfs were temporarily changed to instream use with Montana DNRC. Acquisition of the water rights by CFC would result in their permanent protection for instream use. Irrigation would continue on the property through a partial season limited irrigation arrangement of 3.3 cfs with a minimum flow agreement.

This report provides an estimate of the fair market value for the Poorman Creek water rights. The report is organized according to the following sections:

- **Water Right Description:** Provides a summary of the subject water rights including the history, current use and the regulations affecting potential use(s).

- **Water Rights Assessment:** Provides an assessment of the subject water rights according to key factors influencing marketability and value including reliability and transferability. The assessment is used to identify potential alternative uses of the subject water rights.

- **Market Assessment:** Describes the water rights market in Montana relevant to the subject water rights, including regional water supply and demand drivers.

- **Valuation:** The value of the subject water rights is estimated using sales comparisons and income approaches. The value of the limited irrigation provision is determined separately from the overall value of the subject water rights.

- **Summary:** Key findings of the analysis are summarized and reconciled to identify the relevant value range for the subject water rights.

Water Rights Description

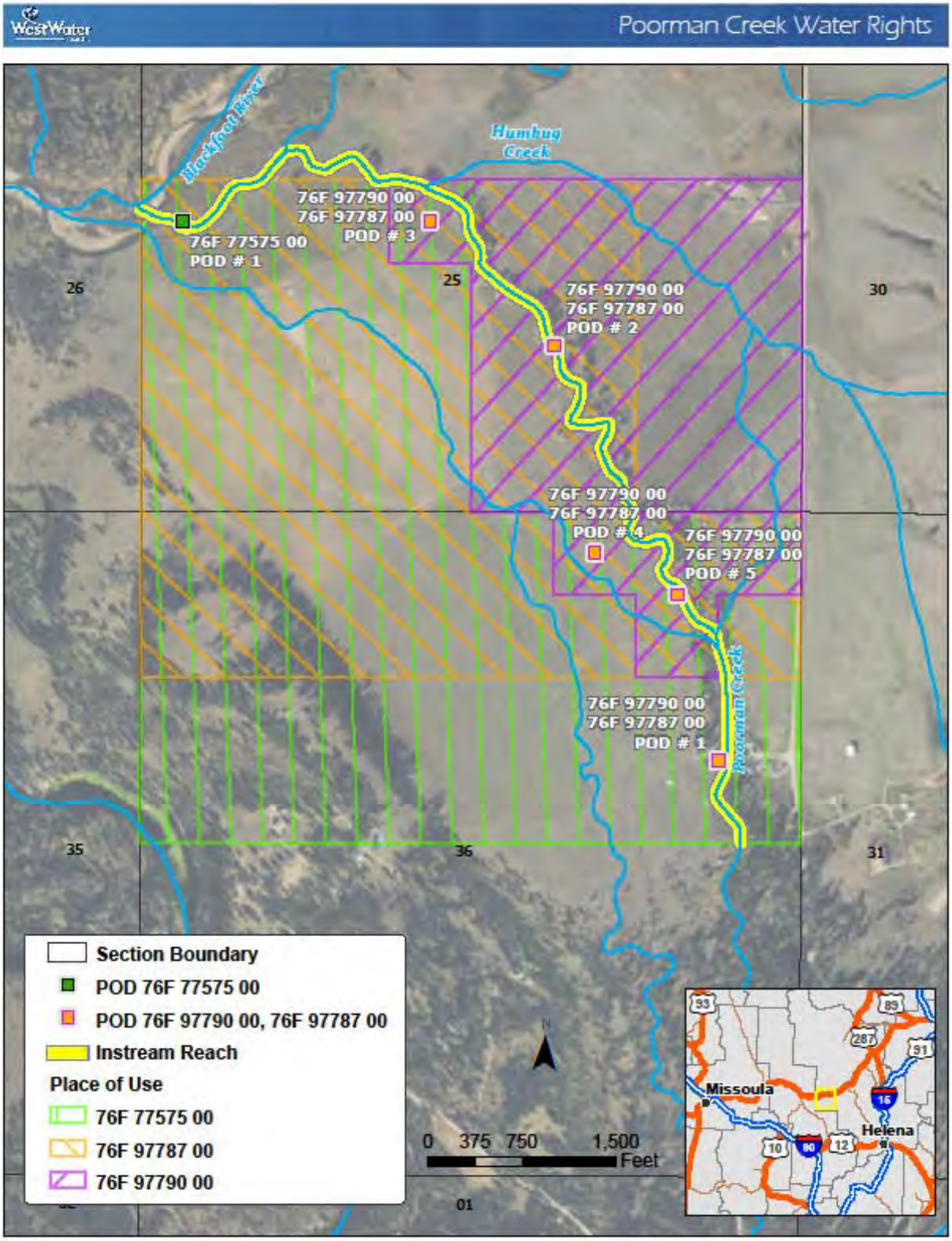
The subject water rights are two water right claims and one permit associated with the Perkins Ranch on Poorman Creek near Lincoln, Montana. Parameters of water rights are often expressed in the maximum instantaneous quantity of water that can be diverted in cubic-feet per second (cfs), also referred to as "rate," and the maximum annual volume of water that can be diverted in acre-feet (AF), also referred to as "duty." Provisional permit 76F 77575 is the smallest of the three water rights, with a rate of 2.67 cfs, and has a junior priority date of 1991. Claims 76F 97787 and 76 97790 have a much more senior priority date of 1889 and total 18.41 cfs. The two senior claims were the water rights that were changed to allow for instream use in addition to the original use of irrigation following the conversion from flood to sprinkler irrigation. Combined, the claims and permit can irrigate up to 610 acres. There is a significant amount of overlap in the place of use for the claims and permits, however. In practice, approximately 340 acres has been consistently irrigated.

A summary of the subject water rights is provided below in Table 1 and the points of diversion and places of use associated with the claims and permit are mapped in Figure 1 below. Presently, only the southern-most point of diversion (POD) is used for irrigation.

Table 1. Summary of Water Rights

Water Right Number	Listed Owner	Priority Date	Use	Source	Maximum Acres	Water Right Rate Limitation (cfs)	Water Right Duty Estimate (AF)
76F 77575	Parcs 2.0 LLC	1991	Irrigation	Poorman Cr.	270	2.67	400.00
76F 97787	Parcs 2.0 LLC	7/22/1889	Irrigation, Fishery	Poorman Cr.	208	9.50	2,822.95
76F 97790	Parcs 2.0 LLC	7/22/1889	Irrigation, Fishery	Poorman Cr.	132	8.91	2,482.35

Figure 1. Water Rights Map



Present Use

The subject senior claims have been exercised consistently for irrigation and fishery use. Located on the western slope of the Rockies, near the continental divide, the short growing season (approximately 30 frost-free days per year) limits crop opportunities. Like most irrigation use in the region, the subject water rights are used on pasture which yields one cutting each year. In 2003, the flood irrigation infrastructure was replaced with center pivots, dramatically increasing on-farm efficiencies and lowering the diversion volume needed to irrigate the pasture. In conjunction with the irrigation efficiency project, the ranch owner and TU transferred the conserved water (up to 15.11 cfs) instream on a temporary basis.

Provisional permit 76F 77575 has rarely been exercised over the last 15 years and is very unreliable due to physical water availability and its junior priority. It has not been exercised in the last five years, if not longer. Based on this information, the permit is considered to have no value and is not considered further in this analysis.

Proposed Agreement

Under the proposed agreement between CFC and the landowner, CFC will purchase the three water rights with the agreement to lease back 3.3 cfs to the landowner for irrigation. Under the terms, the landowner can divert up to 3.3 cfs from southernmost POD (POD #1) between May 1 and October 4 (not exceeding 690.2 AF annually) but must cease all irrigation whenever the monitoring station located above the POD reads 11 cfs or lower. Based on flow data collected by TU over the last 15 years, on average, diversion would not be allowed after July 15, as the minimum flow requirement would not be met.

An alternative agreement whereby the landowner would retain ownership of the water rights and lease the instream portion to CFC will also be briefly discussed in the water rights valuation section of this document.

Water Rights Assessment

The following sections describe the important determinants of value for water rights including reliability and transferability. Each of these value determinants is presented in the context of the subject water rights. This information is used to assess the potential uses of the subject water rights – an important consideration in determining its marketability and value.

Adjudication

The State of Montana is currently working to complete general stream adjudications across the state, to resolve all water right claims that pre-date July 1, 1973. The state was divided into 85 sub-basins, with a separate adjudication for each basin. The Montana Water Court is handling the legal adjudication of water rights, while the Montana Department of Natural Resources and Conservation (DNRC) is acting as the primary technical review agency and advisor of the state. The Blackfoot Basin (Basin 76F) is currently in the process of being adjudicated. The DNRC issued its findings on water right claims on February 2, 2011, and objections to such findings were due to the Court on February 6, 2012. In an August 2016 progress report, the Montana Water Court advised that it had resolved 91.1% of the claims in the basin.[1] The status of the claims and adjudication is not expected to affect the use and marketability of the subject water rights and therefore should not impact their value.

Transferability

The transferability of the subject water rights is an outstanding issue. Under the proposed sale agreement between the landowner and CFC, only a change in ownership form must be filed with the DNRC. However, the value of the underlying water rights is affected by transferability and marketability. There do not appear to be any outstanding objections with other parties that have claims on Poorman Creek. Assuming the water court finds no more issues, transferability should not be impaired. Such an assumption is necessary and proper to make given the need to determine a market value for the subject water rights prior to completion of the adjudication, and is being made with the best information available at this time.

[1] DNRC Report to WPIC Adjudication Process, retrieved 10/25/2017, http://leg.mt.gov/content/Committees/Interim/2015-2016/Water-Policy/Meetings/Sept-2016/Adjudication-Aug2016.pdf

The volume of water that DNRC would approve for transfer is an important consideration. It is likely that the DNRC would only approve the consumptive portion of the subject water rights for a downstream transfer. Therefore, a majority (over 15.11 cfs) of the subject water rights are not likely marketable to a new downstream use.

Seniority/Reliability

The legal characteristics of a water right can significantly impact value. Each water right has a priority date that refers to the date it was established. The priority date has particular importance because it determines the likelihood that water will be available for use under low-flow conditions. During times of water shortages, older, or "senior" water rights are the first to receive their water allocation. Junior water rights are required to forgo or curtail diversions in order to ensure that the water needs of senior water right holders are met. Senior water rights provide a reliable claim to water, even during low flows, and therefore, tend to be more marketable and valuable.

The determination of seniority (reliability) is an important characteristic in estimating the value of water rights as well as in determining the volume of water that is eligible for transfer to a new use. In general, most water rights that have been traded in the market are relatively senior and provide reliable supplies. Few demands have interruptible needs and consider junior (less reliable) water rights to be viable options.

Reliability can be assessed in a number of ways. To assess the reliability of the subject water rights, historic stream flows on Poorman Creek are compared to the total face-value of water appropriated.

Claims 76F 97787 and 76F 97790 combine for 18.41 cfs and are among the senior-most claims on Poorman Creek, so when water is available, these two rights are served first/curtailed last. All claims with a source from Poorman Creek are presented below in Table 2, which is sorted by priority date. The subject claims are highlighted in a darker shade of blue. The Baldy Mountain claim has the same priority date as the subject claims; however, Baldy Mountain has since relinquished that right as part of its overall water rights settlement in the statewide adjudication. The only claim with a priority date senior to the subject claims is the Bear Park claim on the south fork of Poorman Creek. Aerial imagery suggests water has not been diverted at the POD in recent years. Additionally, the Bear Park claim abstract indicates that use under the claim is largely non-consumptive. Thus, the Bear Park claim would not likely affect the subject senior claims.

Table 2. Poorman Creek Claims

Basin	Claim Number	Use	Diversion (cfs)	Priority Date	Source	Owner
76F	26052	MN	3.7	6/13/1888	Poorman Cr, South Fork	BEAR PARK LLC
76F	97766	IR	0.76	7/22/1889	Poorman Cr	BALDY MOUNTAIN RANCH INC
76F	97787	IR	9.5	7/22/1889	Poorman Cr	GRANTIER, CHARLES E
76F	97790	IR	8.1	7/22/1889	Poorman Cr	GRANTIER, CHARLES E
76F	26051	PG	2.5	6/28/1890	Poorman Cr, South Fork	CONOVER
76F	118452	ST		10/3/1919	Poorman Cr	ALVY,et al
76F	146772	IR	0.18	10/3/1923	Poorman Cr	ALVY,et al
76F	51942	ST		06/01/1928	Poorman Cr	FOREST SERVICE
76F	51943	ST		06/01/1928	Poorman Cr	FOREST SERVICE
76F	51944	ST		06/01/1928	Poorman Cr	FOREST SERVICE
76F	51945	ST		06/01/1928	Poorman Cr	FOREST SERVICE
76F	51946	ST		06/01/1928	Poorman Cr	FOREST SERVICE
76F	51940	ST		06/01/1928	Poorman Cr	FOREST SERVICE
76F	51947	ST		06/01/1928	Poorman Cr	FOREST SERVICE
76F	51949	ST		06/01/1928	Poorman Cr, South Fork	FOREST SERVICE
76F	45254	IR	0.22	04/18/1931	Poorman Cr	BOTTOMLY, RICHARD V
76F	97684	MN	1	4/18/1931	Poorman Cr	BAWCOM, et al
76F	23787	MD	2.5	07/05/1935	Poorman Cr, South Fork	GUILBAULT, ROBERT N
76F	23788	MN	2.5	07/05/1935	Poorman Cr, South Fork	GUILBAULT, ROBERT N
76F	116283	ST		04/01/1947	Poorman Cr	CHAMPION INTERNATIONAL CORP
76F	116233	ST		04/02/1949	Poorman Cr	THOMPSON BROTHERS RANCH CO
76F	26050	IR	0.09	5/15/1953	Poorman Cr	BEAR PARK LLC
76F	127781	MD	0.26	5/1/1958	Poorman Cr	CHURCH, et al
76F	102988	IR	0.01	6/30/1959	Poorman Cr	LEE, STEVEN L LEE, MARY A
76F	102989	ST		06/30/1959	Poorman Cr	LEE, STEVEN L LEE, MARY A
76F	97688	MD	0.03	06/30/1959	Poorman Cr	MEAD GULCH LLC
76F	98007	DM	0.01	07/01/1962	Poorman Cr	HAFFNER & SPINLER
76F	98003	MD	0.04	12/31/1970	Poorman Cr	SPINLER
76F	98004	ST	0.04	12/31/1970	Poorman Cr	SPINLER

Flow measurements in Poorman Creek have been measured frequently by TU as part of their monitoring efforts over the last 15 years. These flow measurements are presented in Table 3 as two-week averages. Table 3 also includes the allowed diversion under the subject senior claims, the portion of the subject claims that would have been in priority, and the percentage of the diversion under the claims that would have been served. For the senior claims, it was assumed that the entire discharge of Poorman Creek at the Perkins Ranch could be diverted, as the claims are the senior-most in the Poorman Creek drainage. Based on these calculations, it was determined that the 2 senior claims are 68% reliable, on average.

Table 3. Senior Claims Reliability Estimate

2-Week Period	Average Discharge (cfs)	Subject Claims (cfs)	Portion of Subject Claims Served (cfs)	% of Subject Claims Served
June (1-15)	31.27	18.41	18.41	100%
June (16-30)	21.69	18.41	18.41	100%
July (1-15)	16.93	18.41	16.93	92%
July (16-31)	12.5	18.41	12.50	68%
August (1-15)	8.71	18.41	8.71	47%
August (16-31)	6.68	18.41	6.68	36%
September (1-15)	5.43	18.41	5.43	29%
Averages	14.74	18.41	12.44	68%

Water Market Assessment

Clark Fork River Basin

The Clark Fork River Basin consists of 13 sub-basins and has total area of approximately 21,833 square miles, encompassing much of western Montana. Precipitation across the Basin varies, ranging from 12 to 120 inches per year, yielding an annual basin wide discharge of approximately 14.7 million AF.[2] The Upper Flathead Basin is responsible for around 48% of the outflow of the Clark Fork River. The Lower Clark Fork Basin contributes 13%, the Bitterroot Basin 12%, the Upper Clark Fork and Blackfoot Basin each contribute 8%, Flathead Lake 7%, and the Lower Flathead Basin contributes 4%.[3] The Upper Clark Fork basin has an average annual precipitation of 3,217,917 AF, with a total runoff estimated at 1,168,721 AF per year and annual groundwater recharge of approximately 644,000 AF.[4]

The total 2030 population of the Clark Fork River Basin is projected to increase by nearly 30% from 2006 levels. Granite County is predicted to grow by 19%, Powell County by 16%, and Deer Lodge County by -9% by 2030. Agriculture, oil and gas, and tourism are the largest contributors to the basin's economy while information technology and construction are the fastest growing industries.[5] Public land makes up between 52% and 73% of the land area in the sub-watersheds within the Clark Fork River Basin. Most of these sub-watersheds have between 12% and 18% of the total land area in agricultural production. The primary agricultural activity is cattle grazing. The highest percentage of agricultural land is in the Upper Clark Fork.[6] In the heavily timbered Lower Clark Fork sub-watershed, only 3% of the land area is in agricultural production. In total, 12% of the land in the Clark Fork River Basin is used for agriculture.[7]

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2 *Proceedings of the Water Supply and Growth in the Clark Fork River Basin Conference*. Pg. 2. Jacob Peterson-Perlman & David Shively, University of Montana. March 10 & 11, 2008.

3 *Id* at 13.

4 *Id* at 14.

5 *Ibid.*

6 *State of the Clark Fork Report*. 2005. A publication of the Clark Fork Coalition. Pg. 38.

7 *Id.* at 43.

Regional Water Supply

Water demands in the region are met through both surface and groundwater resources. The availability of water from both sources is described below.

Surface Water

The Montana State Legislature legislatively closed portions of the upper Clark Fork Basin, including Basin 76F in which the subject water rights are located, to new water appropriations pursuant to the authority granted in MCA 85-2-319, effective April 14, 1995. DNRC is prohibited from processing new water right applications within portions of the Clark Fork River Basin excepting applications for stock water, storage water, and applications for groundwater appropriations that meet the criteria outlined in MCA 85-2-311, are not connected to surface water, or include an approved augmentation plan.[8]

While the lower portions of the Clark Fork River Basin have not been legislatively or administratively closed to new appropriations, in 2006 DNRC denied Thompson River Lumber Company's application to appropriate 400 AF of water from the Clark Fork River for power generation based on a failure to prove legal availability of water and lack of an adverse effect. The implication of the Thompson Lumber Company decision is that "the Lower Clark Fork River is de facto closed to new appropriations of surface water."[9]

The basin closure in 1995 combined with the Thompson River Lumber decision result in a situation where the only way to obtain a reliable surface water right within the Clark Fork River Basin is to acquire an existing water right.

Groundwater Supplies

In the 2007 session, the Montana Legislature enacted a number of changes in the state's water laws. Among the changes, House Bill 831 addressed applications for new groundwater appropriations in closed basins such as the Upper Clark Fork, which includes all of Basin 76F. HB 831 statutorily recognizes that groundwater and surface water are hydraulically connected and provides a mechanism for new groundwater developments to move forward by providing for the use of mitigation to offset net depletion of surface flows. House Bill 831 requires groundwater permit applicants for new water rights in closed basins to determine the impact on surface water from the new water appropriation. The applicant then must mitigate any adverse effects to surrounding water right holders. To satisfy mitigation requirements groundwater permit

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[8] *Montana's Basin Closures and Controlled Groundwater Areas*. Water Resources Division of the Department of Natural Resources and Conservation. December 2003. Pgs 46-47.

[9] *Proceedings of the Water Supply and Growth in the Clark Fork River Basin Conference*. Pg. 6-7. Jacob Peterson-Perlman & David Shively, University of Montana. March 10 & 11, 2008.

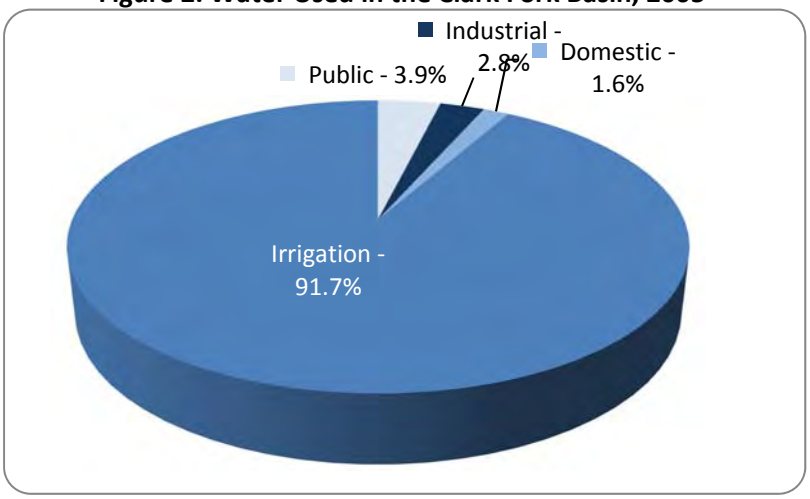
applicants can purchase and change existing surface water rights that meet location, timing, and quantity requirements.

Due to constraints on the availability of new groundwater rights in the Upper Clark Fork Basin, the ability to develop a new groundwater source without first acquiring an existing, valid water right is very limited. Most new water uses will require the acquisition of an existing water right, either for direct use or to use as mitigation for new groundwater development. Despite these requirements, water market activity outside of environmental buyers has been very limited in the basin.

Regional Water Demand

Every five years the USGS publishes water use data, by county for the entire United States. The USGS is currently processing the data for 2015. For Montana, most data (including irrigation and domestic use) is missing from the 2010 report. Therefore, data from the 2005 report is used here to report water use in the Clark Fork Basin. A relatively high level of demand for water in agricultural and urban uses exists in the Clark Fork Basin; however, as shown in Figure 2, 91.7% of the water use in the basin is associated with irrigated agricultural users.

Figure 2. Water Used in the Clark Fork Basin, 2005



Source: U.S. Geological Survey, "Estimated Use of Water in the United States." http://water.usgs.gov/watuse/data

Throughout the basin, agricultural and urban water use has expanded over time. In addition, environmental protection interests actively seek to increase the quantity of water left instream to improve aquatic habitats, and in this region, has resulted in increased water right market activity.

Urban Water Demand

Areas experiencing urban growth tend to see higher water demand and corresponding increases in water right values. As described in the previous section, the Clark Fork River Basin has experienced population growth over the last decade. This growth is expected to continue. Table 4 indicates the projected growth from 2010 – 2030 for the counties that make up the Clark Fork River Basin, based on the most recent estimates from the state of Montana.[10]

Table 4. Projected Population Growth in the Clark Fork River Basin

County	2010	2020	2030	2010-2030 Growth
Flathead	90,871	102,929	112,770	24%
Missoula	109,443	123,553	134,085	23%
Lewis & Clark*	63,604	70,208	74,495	17%
Deer Lodge	9,297	9,614	10,500	13%
Ravalli	40,343	42,450	44,691	11%
Lincoln*	19,668	20,886	21,648	10%
Sanders	11,397	11,776	12,019	5%
Powell	7,031	7,247	7,355	5%
Granite	3,079	3,117	3,217	4%
Silver Bow	34,233	35,014	35,487	4%
Mineral	4,223	4,325	4,316	2%
Lake	28,775	29,232	29,101	1%

* County only partially within Clark Fork River Basin

Population growth in the Clark Fork Basin is centered in urban areas. Since 2000, population growth in these areas has resulted in increasing demand for municipal and industrial water supplies. As urban populations continue to expand in the future, acquisitions of existing water rights will likely occur to accommodate new municipal and industrial water needs.

Despite the potential for increasing downstream demand from municipal or industrial users, the subject water rights are not likely a good match to supply such demand. The volume of water available for transfer under the subject water rights is largely non-consumptive and only a small portion would be eligible for a downstream transfer. Furthermore, the limited irrigation provision in the proposed agreement likely precludes the water rights from being a viable acquisition opportunity for direct use or mitigation in the urban sector.

[10] http://ceic.mt.gov/Population/PopProjections_StateTotalsPage.aspx

Highest and Best Use Assessment

The appraisal of fair market value is based upon a determination of the highest and best use for the subject water rights. Highest and best use is defined as "the highest and most profitable use for which the property is adapted and needed or likely to be needed in the near future." Criteria that are commonly used to determine highest and best use include:

- ***Legally Permissible:*** Under Montana water law, the water rights can be transferred to new uses and locations. In addition to the water rights' current uses, the primary alternative uses for the subject water rights are limited. The limited irrigation provision of the proposed agreement likely precludes the consumptive portion of the subject water rights to be potentially be transferred downstream, and the non-consumptive portion (majority) of the subject water rights likely have no legally permissible alternative out-of-stream use.
- ***Physically Possible***: The subject water rights have been historically used to irrigate pasture and provide instream benefits at the current place of use. It is physically possible to relocate the water rights' point of diversion to current users on Poorman Creek, downstream along the Blackfoot River, or further downstream to the Lower Clark Fork, without additional capital investment.
- ***Financially Feasible***: To be financially feasible, the subject water rights typically must generate net revenues sufficient to satisfy the return on investment in improvements as well as generate a positive return on the water. The subject water rights has been utilized for many years for irrigating the Perkins Ranch and for providing instream flow in Poorman Creek following the irrigation system upgrades. A portion of the irrigation system upgrades were paid for by TU leasing the saved water via a 15-year agreement, which is expiring soon. The instream lease and history of irrigated agriculture therefore demonstrate the financial feasibility of the current use. Water right transfers to agricultural, environmental, municipal and domestic mitigation uses in other parts of Montana demonstrate general financial feasibility, as do other environmental transactions in the Blackfoot Basin. The largely non-consumptive nature of the subject water rights decreases the financial feasibility of a downstream transfer to a new use.
- ***Maximum Productive Use***: The maximum productive use is that which produces the highest rate of financial return. There is demonstrated evidence of short-term and permanent sales of water rights in Montana from existing uses to higher value uses. A review of water right transfer records indicates that market transfers of water rights in Montana have consisted primarily of short-term transfers from agriculture to agricultural, municipal, and environmental uses. Permanent water right transfers in Montana have primarily involved municipal, domestic mitigation and environmental buyers. Given the relatively low downstream urban demand and the limited regional water market being dominated by environmental buyers, irrigation and environmental use at the current location is likely the maximum productive use.

Alternative uses within the potential market regions are considered in light of the specific requirements of each alternative use and the ability of the water rights to meet those criteria.

The highest and best use identifies the most likely use of the subject water right that generates the highest value (including current use). Given the size, location, and character of the water rights, the highest and best use is considered to be irrigation and environmental use at its current location.

Water Right Valuation

There are a variety of approaches available to estimate the value of water rights. The selection of appropriate valuation technique(s) is determined by the characteristics and nature of the subject water rights, the level of market activity, and the availability and quality of information, among other factors. The methods applied to value the subject water rights are briefly described below:

- **Sales Comparison Approach:** The Sales Comparison Approach compares a subject water rights with similar water rights that have been sold or leased to determine market value. A reasonable number of sales are required to make accurate comparisons. Where necessary, adjustments should be applied to account for differences in physical and legal characteristics between the comparable sales and a particular water right. Prior water right transactions within western Montana are applied in this analysis to estimate the value of the subject water rights.

- **Income Approach:** The Income Approach estimates the value of a water right according to the contribution that water provides to net income for a business. The method is based upon the expectations of future benefits from the water right and often can be subject to speculation if the future benefits are associated with a new rather than current use. This approach can be a useful alternative to comparable sales in regions where prior sales activity is limited. It is best suited to estimating the annual value associated with a water right lease. The income approach is applied here to validate annual values for the limited irrigation provision of the proposed agreement.

- **Replacement Cost Approach:** Under some circumstances, the cost of developing alternative water supplies similar to that provided by the subject water right can be used to establish value. The approach requires specific knowledge about the range of opportunities and costs associated with water supply development alternatives and consideration of the subject water rights in context with the available alternatives. As previously described, surface and groundwater sources in the region are closed to new appropriation. As a result, the replacement cost approach is not applied here.

- **Land Price Differential**: This method compares sale prices of agricultural land with water rights to land without water rights. The differential between the two prices represents the value that can be attributed to the water rights. The method requires information on recent land sales and is typically used by real estate appraisers. This approach was not applied in this analysis, because land sales data is not readily available in Montana at the scale needed to apply the valuation approach and the other approaches were considered to provide more direct valuation information. Further, the limited irrigation provision of the proposed agreement complicates application of the approach.

In this section the sales comparison approach is used to determine the total value of the subject water rights. Then, the value of the limited irrigation provision is determined separately, using both the sales comparison approach (average annual lease value in the Clark Fork Basin) as well as the income approach to validate the average annual lease value.

Comparable Sales Approach

This section analyzes the Montana water rights trading market, focusing on permanent water transactions separate from land. Sales and leasing activity of water rights in Montana since 1993 are discussed. Prices and trends in the Clark Fork Basin are examined in greater detail. Comparable sales in the permanent market are selected and applied to the subject water rights to establish the market value. Finally, the value of the limited irrigation provision is determined by applying the average annual value for the Clark Fork leasing market to the estimated water yield from the limited irrigation provision of the proposed agreement.

Montana Water Rights Market Overview

Trading activity for water rights separate from land in Montana is relatively limited. Through a comprehensive research process, WestWater identified a total of 140 transactions since 1993, in which water rights were transferred (either temporarily or permanently) separately from land. The 140 transactions were comprised of 103 leases (transaction terms between 1 and 50 years) and 37 permanent transactions. The majority of trading activity has occurred in western Montana in the Upper Clark Fork River Basin and surrounding basins. The appendix of this report provides a map of the locations of water rights transactions across the state, as well as a map of transactions in the Upper Clark Fork Basin and surrounding basins.

The Montana water market is driven primarily by environmental interests acquiring water rights to improve stream flows and protect riparian ecosystems. The environmental buyers have included CFC, TU, and Montana Fish, Wildlife and Parks. A limited number of transactions involving water rights acquired for municipal, mitigation, agricultural, or industrial uses were identified.

Permanent Market

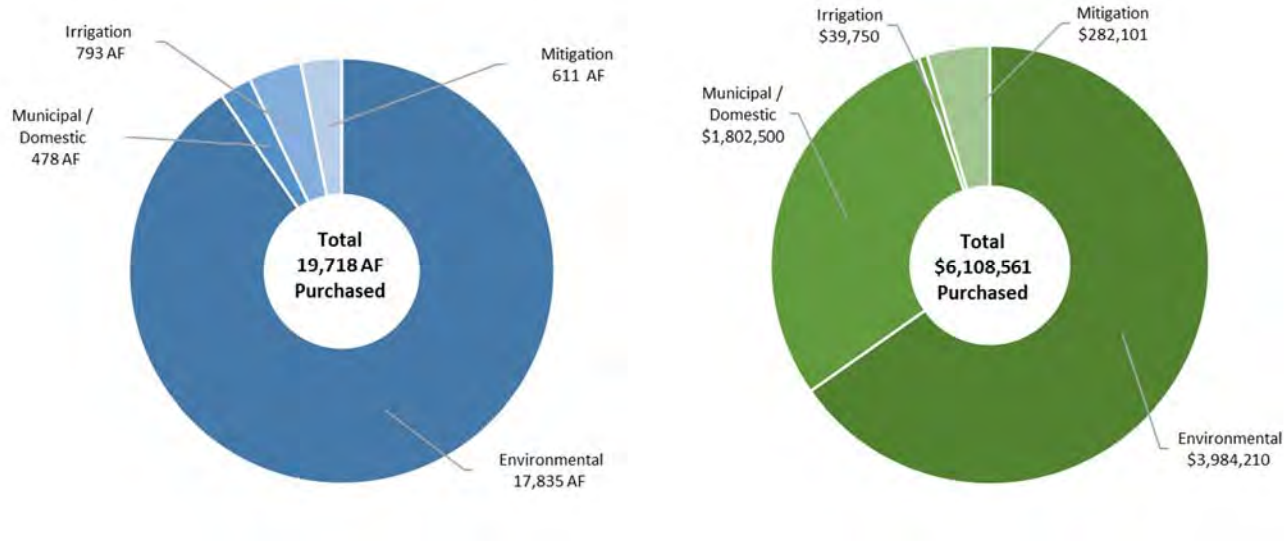
Figure 3 provides a summary of permanent transfers by buyer type.[11] Environmental transactions have accounted for approximately 90% of volume purchased since 1993, while transactions for municipal, mitigation, and irrigation uses make up the remainder of trading activity.

Figure 3 also summarizes total spending for permanent purchases since 1993. Although municipal transactions have been the smallest segment in the market by volume, approximately $1.8 million has changed hands in municipal water rights purchases. This equates to 30% of total spending for permanent transactions. Similar to industrial water users, municipalities require a reliable year-round supply, and are willing to pay a premium to acquire a secure water supply. Mitigation buyers also completed permanent transactions, purchasing surface water rights to transfer

[11] Volumes for permanent transactions are calculated as the volume of the water right purchased. (i.e. a permanent purchase of a 100 AF water right equals 100 AF)

instream and in turn offset any depletions caused by new groundwater uses in closed basins. Generally, mitigation buyers are mitigating for new domestic uses, so they have the same year-round needs as municipalities. Mitigation buyers made up 5% of the value traded in permanent transactions since 1993.

Figure 3. Montana Permanent Water Rights Transactions, Volume and Value Traded by New Use, 1993-2016

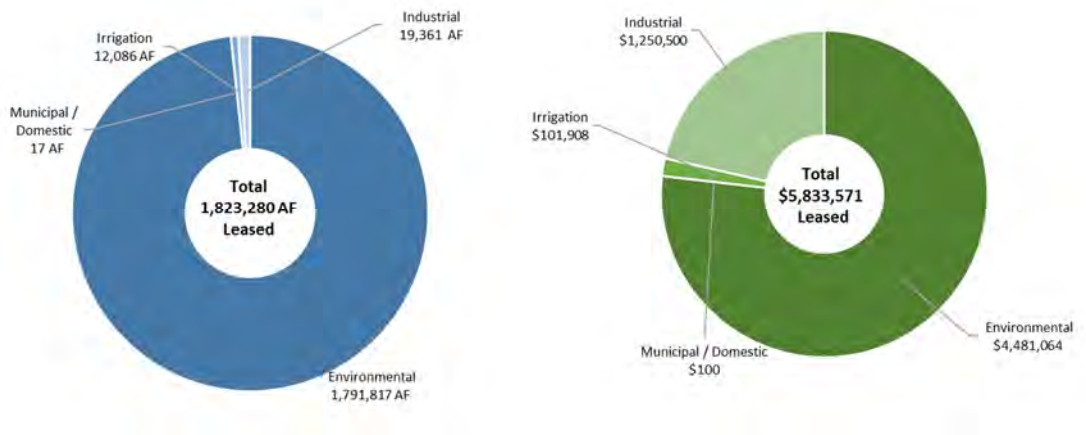


Lease Market

Figure 4 summarizes the market based on volume leased by sector. As shown, environmental transactions have accounted for approximately 98% of the total volume leased, while industrial and agricultural water buyers have accounted for a small percentage of volume leased. Municipalities require secure long-term water supplies, and value the certainty associated with owning water rights. As a result, leases for municipal uses are rare, and only 17 AF has been leased for municipal or domestic purposes.

Figure 4 also provided total spending for water leases by sector. In total, $5,833,571 has changed hands since 1993 in the leasing market. In terms of spending, industrial transactions have accounted for approximately 21% of the lease market. Industrial transactions typically involve high value water users willing and able to pay high rates to lease a reliable water supply. Environmental water buyers have been successful finding surplus water and utilizing unique transaction structures such as partial season lease agreements and irrigation efficiency projects to acquire water at relatively low prices.

Figure 4. Montana Leasing Transactions, Volume and Value Traded by New Use, 1993-2016



Pricing and Trends

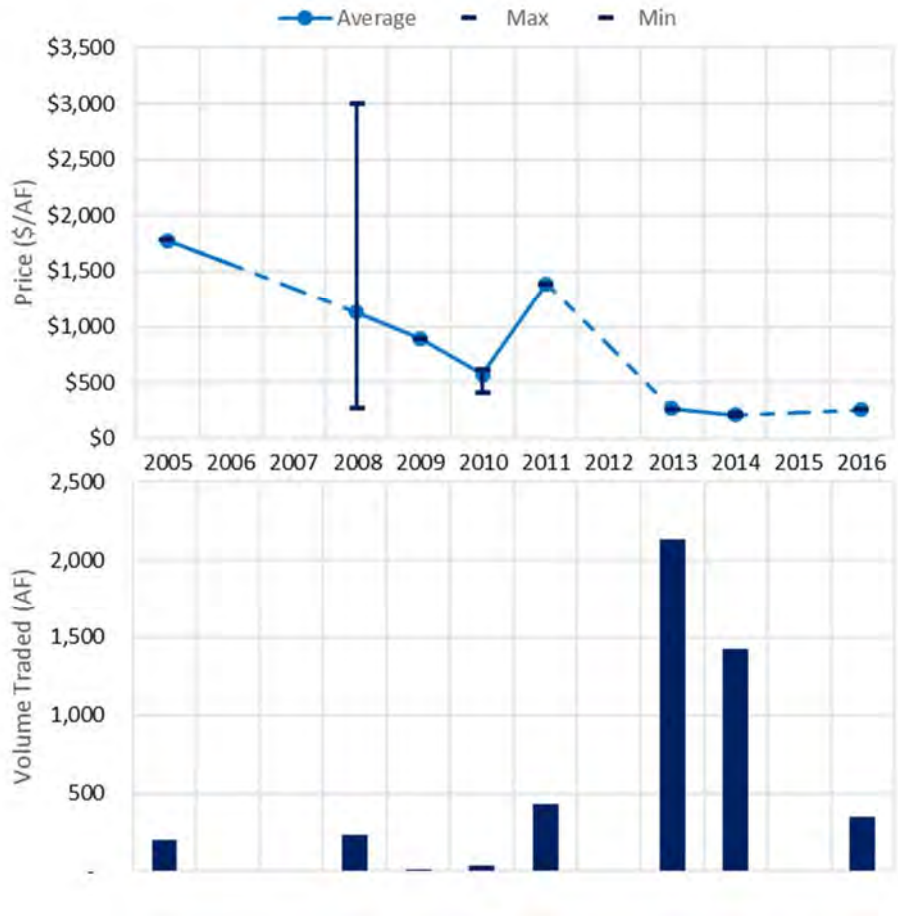
This section describes the range of prices and trends in the Clark Fork Basin water rights market since 2005. Since 2005, there have been 62 leases and 21 permanent transactions executed in the basin.

Permanent Market

Figure 5 provides a summary of permanent purchase prices and volume traded annually since 2005. As shown, prices have generally declined since 2005 to a low of $204/AF in 2014. Permanent transfers have exhibited significant variation with prices ranging from $204/AF in 2014 to a high of $3,000/AF in 2008. The high price variation is due in part to the limited number of sales that are completed in any given year. The highest priced transactions have involved domestic and mitigation buyers, while lower priced transactions typically involve environmental or agricultural buyers. The higher unit price transactions (generally above $600/AF) involve the sale of mostly consumptive water rights, while those sales in the $200-$250/AF range (mostly environmental buyers) involve both consumptive and non-consumptive components of water rights.

Mitigation buyers collectively acquired 246 AF in seven transactions from 2005-2009 in the Clark Fork Basin, totaling approximately $201,000 and an average unit price of $958/AF. This represents a significant portion of the statewide mitigation sales since 1993, as represented in Figure 3. However, it should be noted that there have not been any recorded mitigation sales since 2009. Mitigation buyers are generally located outside of municipalities or existing developments with water supplies that can serve new uses. Most of the seven mitigation sales were from small creeks near Missoula, and therefore do not represent a potential market for the subject water rights, as the new mitigated use likely required the purchase of water on those specific small streams.

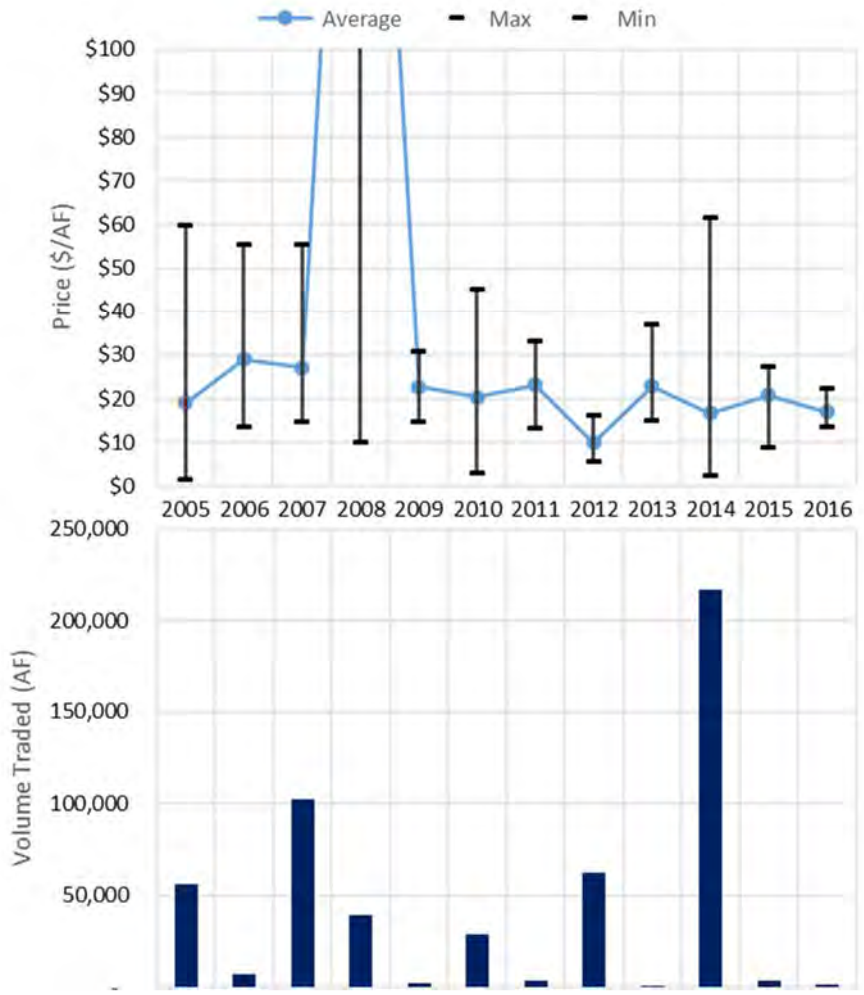
Figure 5. Clark Fork Basin Permanent Water Rights Transactions, 2005-2016



Lease Market

Figure 6 (below) provides a summary of annual lease prices and volumes transacted in the Clark Fork Basin since 2005. As shown, lease prices have generally averaged between $10/AF/yr and $30/AF/yr, with individual transactions typically ranging between $5/AF/yr and $60/AF/yr. Since 2012, the average prices have maintained around $20/AF since then. The average lease price data in 2008 is strongly skewed upward due to a one-year lease of 1 AF of water for $500/AF/yr. The buyer in this transaction was a natural gas company leasing water to test a natural gas pipeline. This transaction was for a small volume of water for a short lease term to a high value industry. As a result, it is not considered representative of value for larger volume leases or leases in general. Two other leases were completed in 2008 with prices of $10.10/AF/yr and $5.30/AF/yr respectively. Leasing volume peaked in 2014 as a result of a long-term lease that totals over 200,000 AF in a 50-year period.

Figure 6. Clark Fork Basin Leasing Transactions, 2005-2016



The 2003 irrigation efficiency project concerning the subject water rights was effectively a 15-year lease of 15.1 cfs of non-consumptive water. The landowner was paid $107,000 to switch from flood to center pivot irrigation in exchange for transferring the saved water instream for 15 years. The project protected up to 4,577.6 AF/yr (based off of estimates by TU) for 15 years, for an annual unit price of $1.56/AF.

In 2014 and 2015, TU leased water via a non-diversion agreement with adjacent landowner Baldy Mountain Ranch, which owns a claim 76F 97766 (see Table 2) and has a point of diversion 0.2 miles below the Perkins Ranch POD on Poorman Creek. Baldy Mountain Ranch has the same senior priority date as the subject senior claims. TU leased 114 AF during each of those years, paying $27.19/AF in 2014 and $30.74/AF in 2015. TU discontinued leasing from Baldy Mountain Ranch following their withdrawal of the claims from the adjudication.

Selected Comparable Sales

The transactions shown in Table 5 are considered to be comparable to a transfer of the subject water rights. These sales were selected because they are permanent, Clark Fork Basin water rights transfers with transaction terms that include both consumptive and non-consumptive water. All sales involved irrigation water rights and all unit prices were adjusted to 2017 dollars using the latest CPI-U figures from the Bureau of Labor and Statistics. The average adjusted 2017 sale price across all comparable sales is $251 per acre-foot. Applying this average unit value to the subject water rights along with their corresponding reliability adjustment factor previously discussed, results in a total estimated value of $905,458, as shown in Table 6. The 2014 Powell County transaction involved a water right with a 12 cfs diversion for 1,667 AF used to irrigated up to 735 acres. The 2014 Deer Lodge County transaction was a conserved water project where CFC essentially purchased 7 cfs of largely non-consumptive water from a water right that originally allowed a 14 cfs diversion for 2,776 AF to irrigate 258 acres. These two transactions both involve large allowed diversions to a relatively small amount of land, much like the subject claims.

Table 5. Selected Montana Permanent Water Right Sales

Buyer	Location (County)	Date	Transferred Volume (AF)	Unit Price ($/AF)	Adjusted 2017 Unit Price ($/AF)
Trout Unlimited- Montana Water Project	Silver Bow County	2013	463	$263	$276
Trout Unlimited- Montana Water Project	Powell County	2013	1,667	$262	$275
Clark Fork Coalition	Missoula County	2014	240	$204	$210
Clark Fork Coalition	Deer Lodge County	2014	1,188	$224	$231
Clark Fork Coalition	Ravalli County	2016	350	$258	$263
Average			782	$242	$251

Table 6. Average Comparable Sale Priced Applied to Subject Water Rights

Water Right	Volume (AF)	Estimated Value	Reliability Factor	Reliability Adjusted Value
76F 97787	2,823	$708,573	68%	$481,830
76F 97790	2,482	$622,982	68%	$423,628
Totals	5,305	$1,331,555		$905,458

Limited irrigation Agreement Value Estimate

As discussed previously, the proposed terms of the transaction involving the subject water rights include a limited irrigation provision, whereby the landowner may divert up to 3.3 cfs from the

upper POD between May 1 and Oct 4 (not exceeding 690.2 AF annually) but must cease all irrigation whenever the monitoring station above upper POD reads 11 cfs or lower. Based on past monitoring efforts by TU and discussions with CFC, under this minimum flow arrangement, the landowner would on average be able to divert water from May 1 to July 15. During this shortened, 75-day period of potential irrigation, a maximum of 491 AF could be diverted. At $20/AF, a one-year lease would be worth $9,840.

A permanent value for the water received under the limited irrigation provision can be estimated, using the income capitalization rate (ratio of irrigated cropland rental rates to values) to equate the two. The five-year average (2013-2017) irrigated cropland rental rate is $80.60/acre while the five-year average irrigated cropland sale price is $2,390/acre, resulting in an average income capitalization rate of 2.75%.[12] Applying the income capitalization rate to the annual limited irrigation provision value estimate of $9,840 yields a permanent value estimate of $357,818.

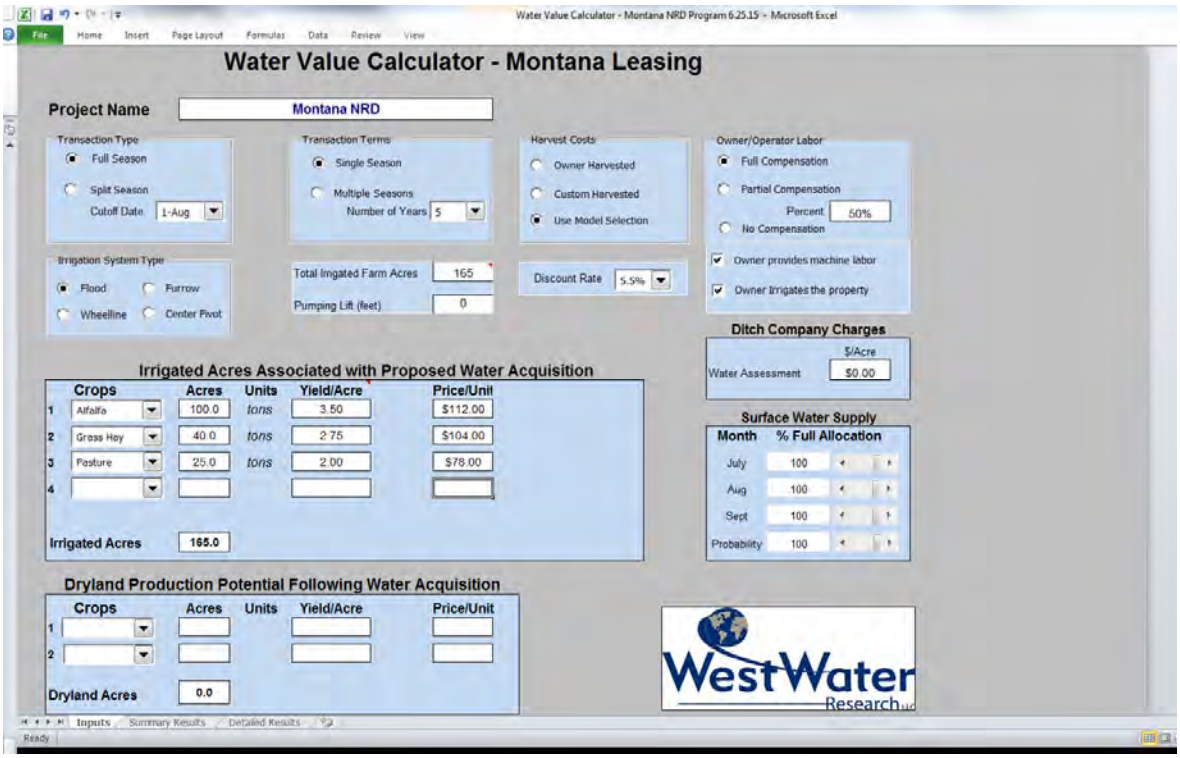
Income Approach

This section provides estimated agricultural water values derived through a farm crop budget approach. Values developed using the approach provide a useful comparison to water market lease prices particularly when the set of transactions from within a region is thin. In addition to providing a comparative measure of value, the farm budget approach can be tailored to estimate water values associated with unique transaction terms.

In general, an agricultural producer will not agree to temporarily fallow irrigated land unless the fallowing payments made by the buyer exceed the net returns to water (NRTW). NRTW is defined as the gross returns from agricultural production less variable costs. Farm Crop Budgets provide the means from which to estimate NRTW. This analysis relied upon published crop production budgets as a foundation for development of a spreadsheet – based farm crop budgeting tool referred to as the Water Value Calculator. An image of the "dashboard" for the model is provided below.

[12] Irrigated cropland rental rates and values derived from USDA's National Agricultural Statistics Service "Quick Stats" database: https://quickstats.nass.usda.gov/, retrieved 11/1/2017

Figure 4. Water Value Calculator



The Water Value Calculator was developed to consider a variety of different farm conditions in the UCFRB and potential transaction structures. It includes alfalfa, grass hay, and pasture and allows the user to select a single crop or a combination of all three. In addition, the model allows the user the flexibility to adjust for water supply reliability, dryland crop potential, harvest costs, and irrigation system. Further, it considers both full season and partial season lease transactions and allows the user to select the irrigation cutoff date. Additional detail on the model is provided in Appendix C.

This analysis developed four "representative farms" to illustrate the application of the model to the Blackfoot Basin. Each of the representative farms was assumed to be 165 acres in size. Three of the representative farms are assumed to only irrigate a single crop (Farm 1 = alfalfa; Farm 2 = grass hay; Farm 3 = pasture). Farm 4 was assumed to irrigate 100 acres of alfalfa, 40 acres of grass hay, and 25 acres of pasture. Using average crop prices and yields, the estimated net returns to water range from $60 to $117 per acre for the farms as shown on Table 4. Farm 3, the all pasture farm is the farm most similar to the Perkins Ranch and other agricultural properties in the Upper Blackfoot. Farm 3's NRTW of $22.02 is similar to the recent average lease price of $20/AF.

Table 4. Estimated Water Savings and NRTW

	Farm 1	Farm 2	Farm 3	Farm 4
Water Savings (AF Diverted)	722	607	448	653
NRTW ($/Acre)	$117.17	$94.81	$59.76	$102.59
NRTW ($/AF)	$26.77	$25.78	$22.02	$25.93

Alternate Lease Scenario

CFC indicated that the landowner is also considering the possibility of retaining ownership of the water rights and leasing the instream portion to CFC. As with the purchase scenario, under this scenario the land owner would irrigate with up to 3.3 cfs but must cease all irrigation whenever the monitoring station located above the POD reads 11 cfs or lower. The best approach for determining the annual value for the instream portion (mostly non-consumptive water) of the subject water rights is to convert the difference between the total value of the subject water rights and the value of the limited irrigation agreement to an annual value.

The total value of the subject water rights was determined to be $905,458, while the total value of the limited irrigation agreement was determined to be $357,818. The $547,640 difference is the total value of the instream portion of the subject water rights. Applying the same income capitalization rate of 2.75% used previously, nets an annual value of $15,060.

Summary and Valuation Conclusion

The comparable sales approach was applied to estimate a relevant range of current value for the subject water rights. The reported findings are summarized as follows:

- The subject water rights included in this analysis:
  - Claim 76F 97787 and 76F 97790 (referred to as the senior claims in this report) collectively are limited to 18.41 cfs and 5,305.3 AF annually. Since 2003, 15.11 cfs have been exercised as instream flow while 3.3 cfs have been used for irrigation in a more efficient irrigation system.

- Provisional Permit 76F 77575 was excluded from this analysis because it is not reliable and likely is no longer valid.

- The subject senior claims are considered senior, however based on hydrologic limitations, they are estimated to be 68% reliable when compared to the maximum diversion volume allowed by the water rights.

- The market for water rights in the region is limited. Aside from environmental transactions, there have been very few sales of water rights in recent years. A large portion of the water right is nonconsumptive which has remained instream for the last 15 years following the onfarm irrigation system conversion. The nonconsumptive portion of water rights has limited alternative potential uses. Further, the limited irrigation provision of the proposed agreement will effectively preclude the sale of any of the consumptive portion of the water rights to a downstream use. Due to these factors, the highest and best use of the subject water rights is considered to be its present uses - agricultural and environmental.

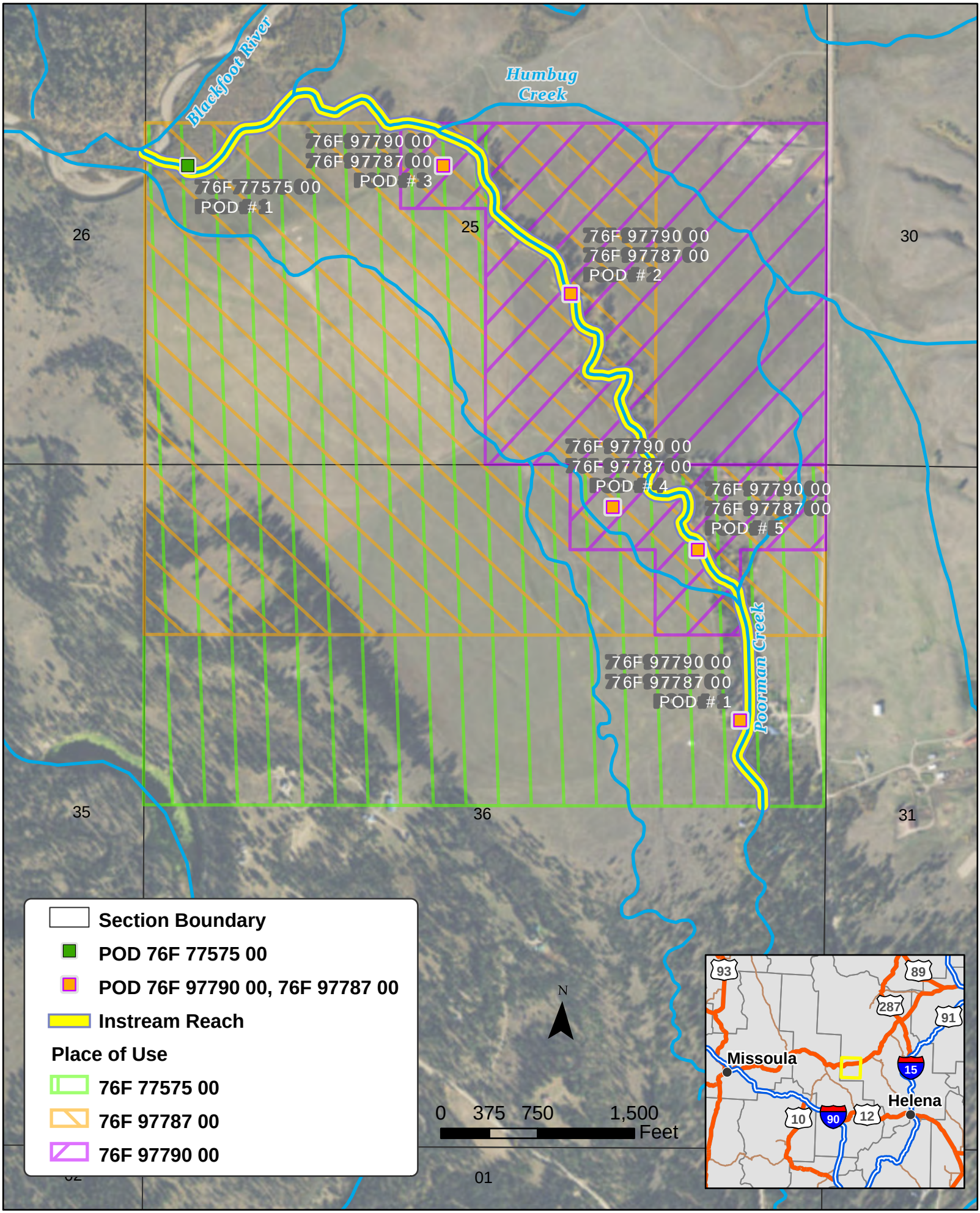
- The comparable sales approach was identified as the most applicable valuation method for the subject water rights.
  - Nine comparable sales were identified, with an average CPI-adjusted value of $251/AF. Applied to the subject water rights (with 5,305 AF volume and adjusted by the 68% reliability factor), the total value under this approach is $905,458.
  - The limited irrigation provision with its minimum flow agreement nets an average 491 AF per year, with an estimated value of $357,818.

- The annual value of the instream portion of the subject water rights is $15,060

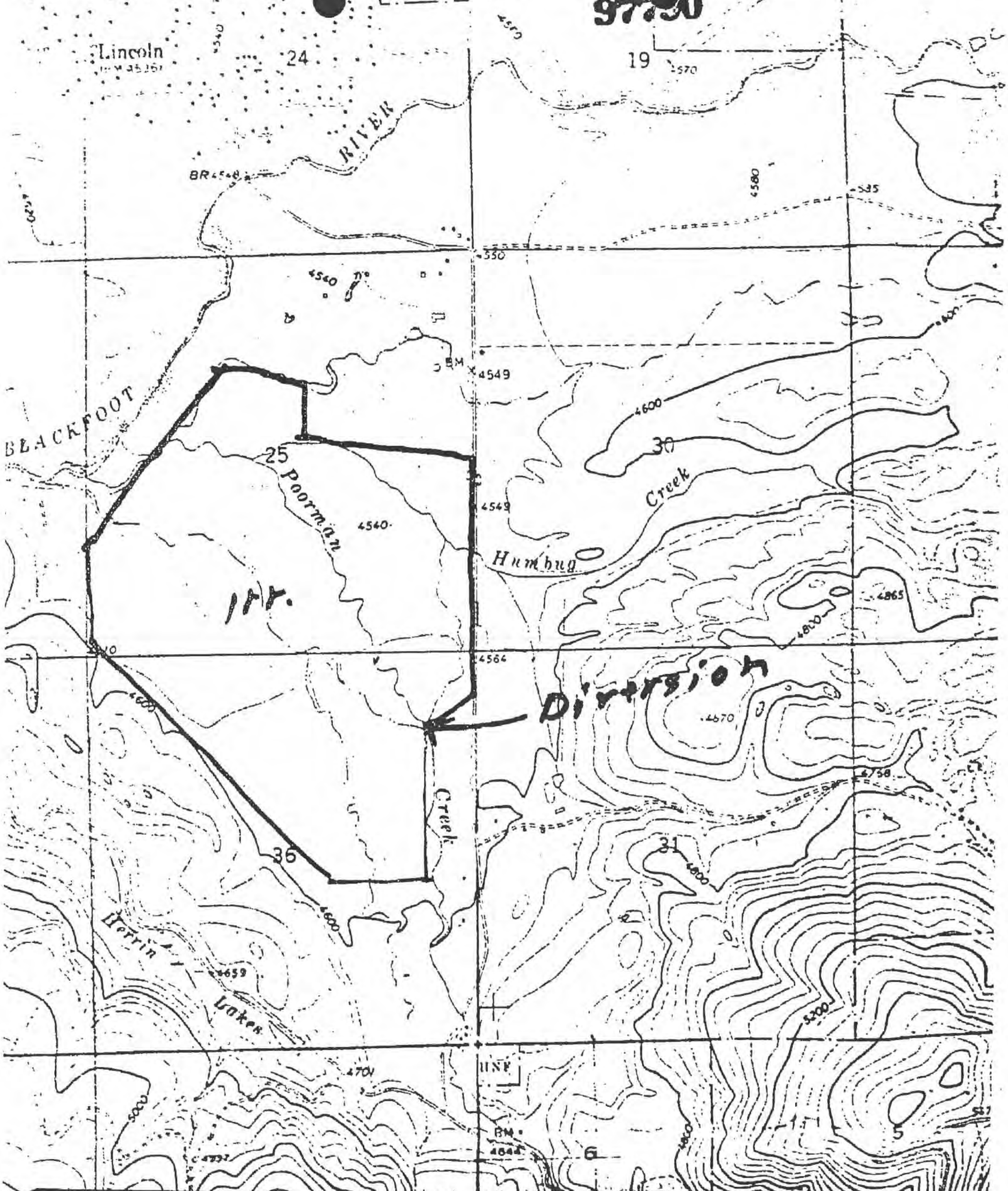
Based on the information and analysis presented in this document, **the total fair market value of the subject water rights is estimated to be $905,000** rounded to the nearest thousand dollars.

Additionally, the **fair market value of the limited irrigation provision is estimated to be $358,000** rounded to the nearest thousand dollars.

Appendix A: Maps


Blackfoot River
Humbug Creek
Poorman Creek
76F 77575 00
POD # 1
76F 97790 00
76F 97787 00
POD # 3
76F 97790 00
76F 97787 00
POD # 2
76F 97790 00
76F 97787 00
POD # 4
76F 97790 00
76F 97787 00
POD # 5
76F 97790 00
76F 97787 00
POD # 1
26
25
30
35
36
31
01
Section Boundary
POD 76F 77575 00
POD 76F 97790 00, 76F 97787 00
Instream Reach
Place of Use
76F 77575 00
76F 97787 00
76F 97790 00
N
0 375 750 1,500
Feet
93
89
287
91
Missoula
15
Helena
10
90
12

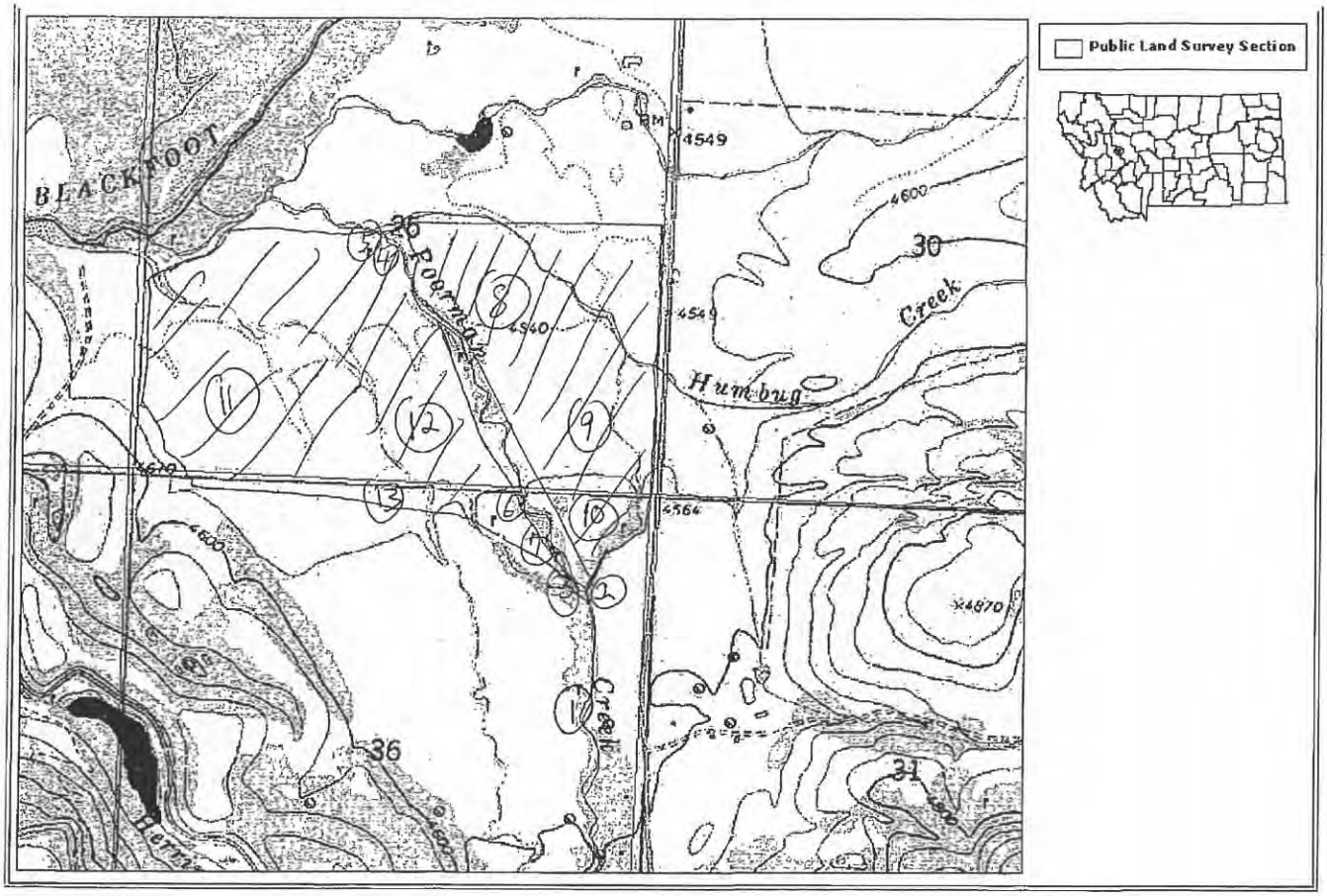
Poorman Creek instream flow



Charles Grantier Lincoln MT

EXHIBIT
A

Poorman Creek instream flow



Attachment R

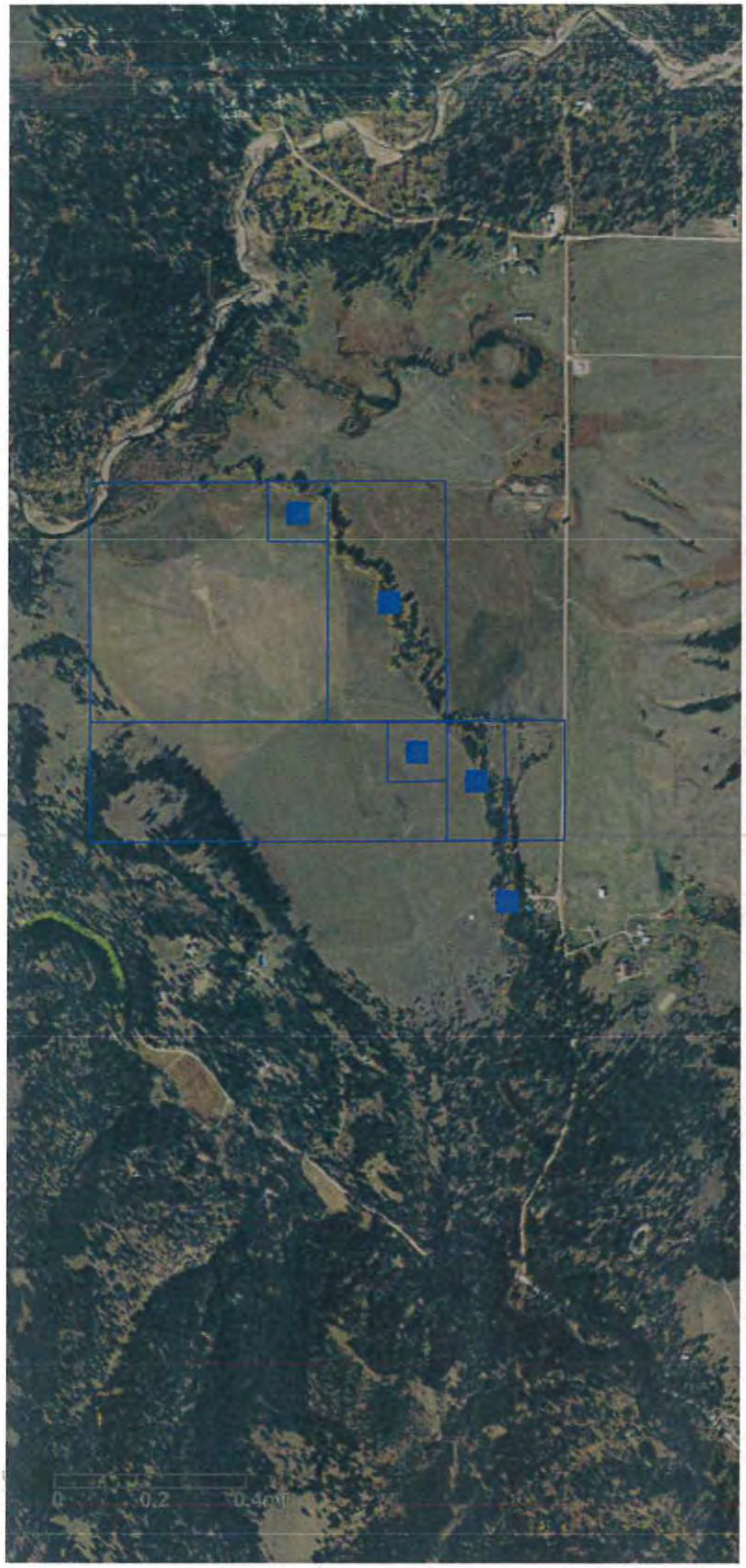
; New Use

//// ; Old Place of use

Water Right Number:
76F 97787 00NULL

Print Map

Reference | TOPO Map | NHD Map | Air Photo | View Legend



Legend

- [x] Diversion Count:
  - Surface water diversion.
  - Ground water diversion.
- [ ] Adjacent Diversions
  - Surface water diversion.
  - Ground water diversion.
- [x] Place of Use Legal Land Descriptions
- [ ] Adjacent POUs
- [ ] Cadastral
- [ ] PLSS Detail

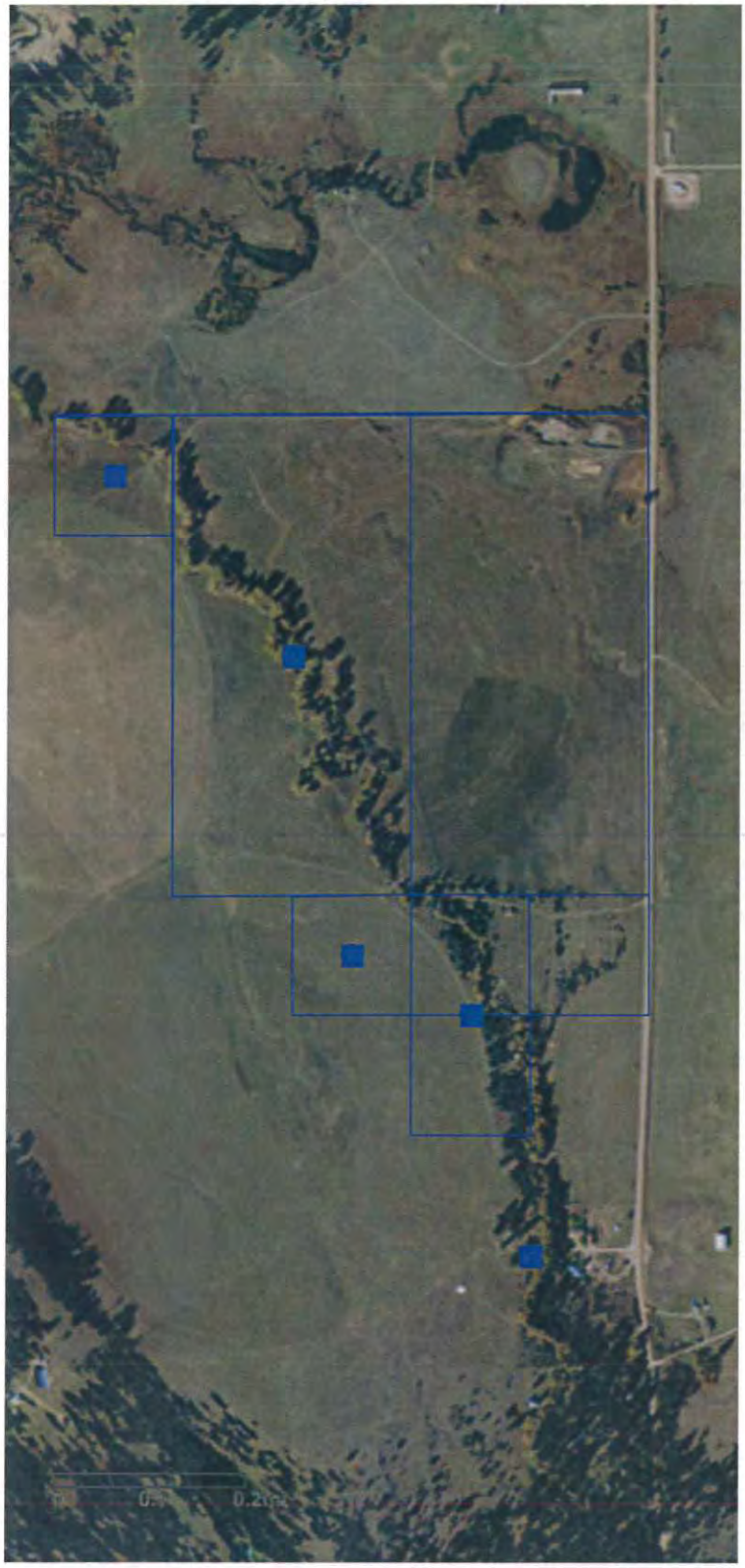
Note:
Contact DNRC if you have any questions or if the mapped information appears incorrect.

The points of diversion (PODs) and places of use (POUs) are derived from water right legal land descriptions. PODs are placed at the center of their legal land description, not at their true geographic location. POUs are drawn as polygons of the entire legal land description.

Water Right Number:
76F 97790 00NULL

Print Map

Reference | TOPO Map | NHD Map | Air Photo | View Legend



Legend

- ☑ Diversion Count:
  - Surface water diversion.
  - Ground water diversion.
- ☐ Adjacent Diversions
  - Surface water diversion.
  - Ground water diversion.
- ☑ Place of Use Legal Land Descriptions
- ☐ Adjacent POUs
- ☐ Cadastral
- ☐ PLSS Detail

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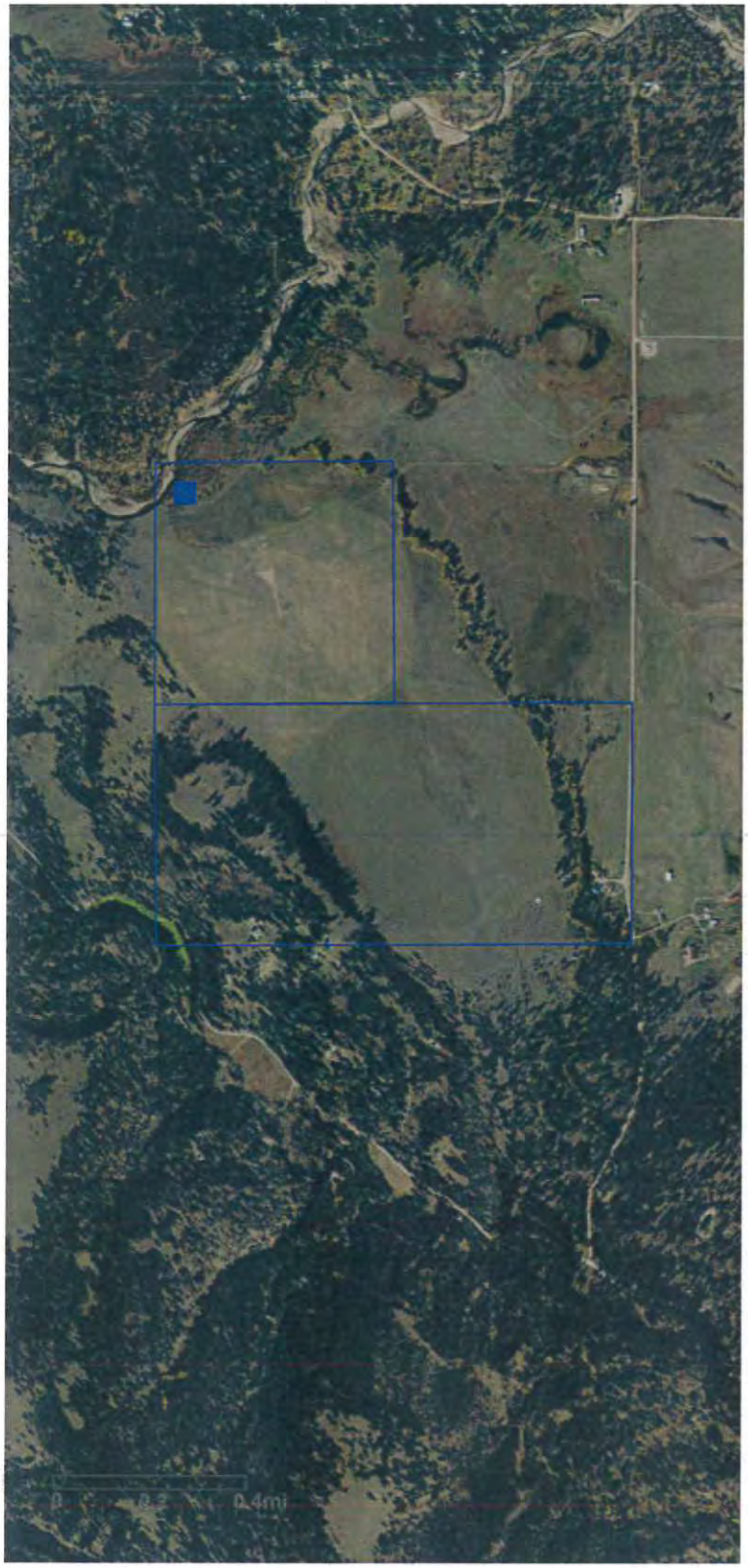
Water Right Number:
76F 77575 00NULL

Print Map

Reference | TOPO Map | NHD Map | Air Photo | View Legend



Legend

- [x] Diversion Count:
  - Surface water diversion.
  - Ground water diversion.
- [ ] Adjacent Diversions
  - Surface water diversion.
  - Ground water diversion.
- [x] Place of Use Legal Land Descriptions
- [ ] Adjacent POUs
- [ ] Cadastral
- [ ] PLSS Detail

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Appendix B: Water Rights Documents

STATE OF MONTANA
DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION
1424 9TH AVENUE P.O.BOX 201601 HELENA, MONTANA 59620-1601

GENERAL ABSTRACT

Water Right Number: 76F 97790-00 STATEMENT OF CLAIM
Version: 2 -- CHANGE AUTHORIZATION
Version Status: ACTIVE

THIS AUTHORIZATION IS LIMITED TO THE AMOUNT OF THE HISTORIC USE RECOGNIZED BY THE DEPARTMENT IN THIS PROCEEDING AS SUBJECT TO CHANGE, AND WILL THEREAFTER NOT EXCEED THAT AMOUNT. IF THE HISTORIC USE IS REDUCED UNDER ADJUDICATION PROCEEDINGS PURSUANT TO TITLE 85, CHAPTER 2, PART 2, MCA, THIS AUTHORIZATION WILL BE LIMITED TO A LESSER AMOUNT.

Owners: PARCS 2.0 LLC
C/O LEIGH H PERKINS, JR.
178 CONSERVATION WAY
ARLINGTON, VT 05250-4465

Priority Date: JULY 22, 1889

Enforceable Priority Date: JULY 22, 1889

Purpose (use): IRRIGATION
FISHERY

Purpose Clarification: INSTREAM FLOW

Irrigation Type: FLOOD

Maximum Flow Rate: 8.91 CFS

Maximum Volume: 2,482.35 AC-FT

Climatic Area: 5 - LOW

Maximum Acres: 132.00

Source Name: POORMAN CREEK

Source Type: SURFACE WATER

Point of Diversion and Means of Diversion:

ID	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1		SENE	36	14N	9W	LEWIS AND CLARK

Period of Diversion: MAY 1 TO OCTOBER 4
Diversion Means: PIPELINE

2		W2SE	25	14N	9W	LEWIS AND CLARK

Period of Diversion: MAY 1 TO OCTOBER 4
Diversion Means: INSTREAM

3		NENESW	25	14N	9W	LEWIS AND CLARK

Period of Diversion: MAY 1 TO OCTOBER 4
Diversion Means: INSTREAM

4		NENWNE	36	14N	9W	LEWIS AND CLARK

Period of Diversion: MAY 1 TO OCTOBER 4
Diversion Means: INSTREAM

5		W2NENE	36	14N	9W	LEWIS AND CLARK

Period of Diversion: MAY 1 TO OCTOBER 4
Diversion Means: INSTREAM

Period of Use: MAY 1 to OCTOBER 4
MAY 1 to OCTOBER 1

Purpose (Use): IRRIGATION

Period of Use: MAY 1 to OCTOBER 4

Place of Use:

ID	Acres	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1	41.50		W2SE	25	14N	9W	LEWIS AND CLARK
2	80.00		E2SE	25	14N	9W	LEWIS AND CLARK
3	10.50		N2NENE	36	14N	9W	LEWIS AND CLARK

Place of Use:

ID	Acres	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
Total:	132.00						

Purpose (Use): FISHERY

Period of Use: MAY 1 to OCTOBER 1

Place of Use:

ID	Acres	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1			W2SE	25	14N	9W	LEWIS AND CLARK
2			NENESW	25	14N	9W	LEWIS AND CLARK
3			NENWNE	36	14N	9W	LEWIS AND CLARK
4			W2NENE	36	14N	9W	LEWIS AND CLARK

Geocodes/Valid: 05-2336-25-3-01-01-0000 - Y 05-2336-36-2-01-01-0000 - Y

Remarks:

THE RIGHT ISSUED ON 06/16/2003 WAS REISSUED. THE RIGHT WAS REISSUED BECAUSE A POINT OF DIVERSION NEEDED TO BE IDENTIFIED FOR THE INSTREAM FISHERY USE AND A PROJECT COMPLETION NOTICE DEADLINE WAS REQUIRED.

PER MCA 85-2-439, THE APPLICANT WILL BE RESPONSIBLE FOR MEASURING AND RECORDING THE AMOUNT OF WATER LEFT INSTREAM TO BENEFIT THE FISHERIES RESOURCE. THE APPLICANT MUST SUBMIT SAID RECORDS BY NOVEMBER 30TH OF EACH YEAR AND/OR UPON REQUEST TO THE WATER RESOURCES REGIONAL OFFICE.

OWNERSHIP UPDATE RECEIVED

OWNERSHIP UPDATE TYPE DOR # 134654 RECEIVED 07/15/2015.

OWNERSHIP UPDATE TYPE 642 # 136441 RECEIVED 07/27/2015.

STATE OF MONTANA
DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION
1424 9TH AVENUE P.O.BOX 201601 HELENA, MONTANA 59620-1601

GENERAL ABSTRACT

Water Right Number: 76F 97787-00 STATEMENT OF CLAIM
Version: 2 -- CHANGE AUTHORIZATION
Version Status: ACTIVE

THIS AUTHORIZATION IS LIMITED TO THE AMOUNT OF THE HISTORIC USE RECOGNIZED BY THE DEPARTMENT IN THIS PROCEEDING AS SUBJECT TO CHANGE, AND WILL THEREAFTER NOT EXCEED THAT AMOUNT. IF THE HISTORIC USE IS REDUCED UNDER ADJUDICATION PROCEEDINGS PURSUANT TO TITLE 85, CHAPTER 2, PART 2, MCA, THIS AUTHORIZATION WILL BE LIMITED TO A LESSER AMOUNT.

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178 CONSERVATION WAY
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Priority Date: JULY 22, 1889

Enforceable Priority Date: JULY 22, 1889

Purpose (use): IRRIGATION
FISHERY

Purpose Clarification: INSTREAM FLOW

Irrigation Type: FLOOD

Maximum Flow Rate: 9.50 CFS

Maximum Volume: 2,822.95 AC-FT

Climatic Area: 5 - LOW

Maximum Acres: 208.00

Source Name: POORMAN CREEK

Source Type: SURFACE WATER

Point of Diversion and Means of Diversion:

ID	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1		SENE	36	14N	9W	LEWIS AND CLARK

Period of Diversion: MAY 1 TO OCTOBER 4
Diversion Means: PIPELINE

2		W2SE	25	14N	9W	LEWIS AND CLARK

Period of Diversion: MAY 1 TO OCTOBER 4
Diversion Means: INSTREAM

3		NENESW	25	14N	9W	LEWIS AND CLARK

Period of Diversion: MAY 1 TO OCTOBER 4
Diversion Means: INSTREAM

4		NENWNE	36	14N	9W	LEWIS AND CLARK

Period of Diversion: MAY 1 TO OCTOBER 4
Diversion Means: INSTREAM

5		W2NENE	36	14N	9W	LEWIS AND CLARK

Period of Diversion: MAY 1 TO OCTOBER 4
Diversion Means: INSTREAM

Period of Use: MAY 1 to OCTOBER 4
MAY 1 to OCTOBER 1

Purpose (Use): IRRIGATION

Period of Use: MAY 1 to OCTOBER 4

Place of Use:

ID	Acres	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1	143.00		SW	25	14N	9W	LEWIS AND CLARK
2	41.00		W2SE	25	14N	9W	LEWIS AND CLARK
3	24.00		N2N2	36	14N	9W	LEWIS AND CLARK

Place of Use:

ID	Acres	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
Total:	208.00						

Purpose (Use): FISHERY

Period of Use: MAY 1 to OCTOBER 1

Place of Use:

ID	Acres	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1			W2SE	25	14N	9W	LEWIS AND CLARK
2			NENESW	25	14N	9W	LEWIS AND CLARK
3			NENWNE	36	14N	9W	LEWIS AND CLARK
4			W2NENE	36	14N	9W	LEWIS AND CLARK

Geocodes/Valid: 05-2336-25-3-01-01-0000 - Y 05-2336-36-2-01-01-0000 - Y

Remarks:

THE RIGHT ISSUED ON 06/16/2003 WAS REISSUED. THE RIGHT WAS REISSUED BECAUSE A POINT OF DIVERSION NEEDED TO BE IDENTIFIED FOR THE INSTREAM FISHERY USE AND A PROJECT COMPLETION NOTICE DEADLINE WAS REQUIRED.

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OWNERSHIP UPDATE RECEIVED

OWNERSHIP UPDATE TYPE DOR # 134654 RECEIVED 07/15/2015.

Poorman Creek instream flow

STATE OF MONTANA
DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION
1424 9TH AVENUE P.O.BOX 201601 HELENA, MONTANA 59620-1601

CHANGE AUTHORIZATION 'GENERAL ABSTRACT'

Change Authorization Issue Date: JUNE 16, 2003

Application From:
CHARLES E GRANTIER JR
PO BOX 817
LINCOLN, MT 59639

Water Right Number(s) Changed:	Wr #	Ext	Type
	76F 97787	00	STATEMENT OF CLAIM
	76F 97790	00	STATEMENT OF CLAIM

Authorization Limits

Flow Rate: 18.41 CFS

Volume: 5,305.30 AC-FT

Change Description:

THE APPLICANT WILL DISCONTINUE USE OF THE HISTORIC HEADGATES AND DITCH SYSTEMS, AND CONSTRUCT A NEW DIVERSION ON POORMAN CREEK IN THE SENE OF SECTION 36, TWP 14N, RGE 9W. THE APPLICANT WILL DIVERT 3.3 CFS UP TO 690.20 ACRE-FEET PER YEAR AT THIS LOCATION AND CONVEY IT TO A CENTRAL PUMPING PLANT VIA A BURIED PIPELINE. THE APPLICANT WILL SPRINKLER IRRIGATE THE SAME PLACE OF USE USING CENTER PIVOTS. THE APPLICANT WILL SAVE APPROXIMATELY 15.11 CFS UP TO 4615.1 ACRE-FEET PER YEAR FROM SWITCHING TO SPRINKLER IRRIGATION AND CONVERTING OPEN DITCHES TO A PIPELINE. THE APPLICANT IS PROPOSING TO TEMPORARILY CHANGE THIS AMOUNT OF WATER TO FISHERIES USE, AND LEAVE THE WATER INSTREAM TO AUGMENT LATE SPRING AND SUMMERTIME FLOWS. THE TEMPORARY CHANGE TO FISHERIES USE WILL LAST 15 YEARS. THE APPLICANT PROPOSES TO CHANGE THE PLACE OF USE FOR A PORTION OF THESE WATER RIGHT CLAIMS TO THE W2NENE AND NENWNE OF SECTION 36, AND THE W2SE AND NENESW OF SECTION 25, ALL IN TWP 14N, RGE 9W, LEWIS AND CLARK COUNTY, FOR INSTREAM FISHERIES USE IN POORMAN CREEK.

CONDITIONAL APPROVAL

THIS AUTHORIZATION IS LIMITED TO THE AMOUNT OF THE HISTORIC USE RECOGNIZED BY THE DEPARTMENT IN THIS PROCEEDING AS SUBJECT TO CHANGE, AND WILL THEREAFTER NOT EXCEED THAT AMOUNT. IF THE HISTORIC USE IS REDUCED UNDER ADJUDICATION PROCEEDINGS PURSUANT TO TITLE 85, CHAPTER 2, PART 2, MCA, THIS AUTHORIZATION WILL BE LIMITED TO A LESSER AMOUNT.

FAILURE TO COMPLY WITH ANY OF THESE TERMS AND CONDITIONS MAY RESULT IN THE LOSS OF THIS CHANGE AUTHORIZATION.

Poorman Creek instream flow

THE INFORMATION SHOWN BELOW REFLECTS THE ENTIRE WATER RIGHT.
AN ASTERISK (*) HAS BEEN PLACED NEXT TO EACH ITEM ALTERED BY THIS CHANGE AUTHORIZATION.

Water Right Number: 76F 97787-00 STATEMENT OF CLAIM
Version: 2 – CHANGE AUTHORIZATION
Status: ACTIVE

Owners: CHARLES E GRANTIER JR
PO BOX 817
LINCOLN, MT 59639

Priority Date: JULY 22, 1889
Enforceable Priority Date: JULY 22, 1889

Purpose (use): IRRIGATION
FISHERY

Maximum Flow Rate: 9.50 CFS

Maximum Volume: 2,822.95 AC-FT

Maximum Acres: 208.00

Source Name: POORMAN CREEK

***Point of Diversion and Means of Diversion:**

ID	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1		SENE	36	14N	9W	LEWIS AND CLARK
Diversion Means: PIPELINE						
2		W2SE	25	14N	9W	LEWIS AND CLARK
Diversion Means: INSTREAM						
3		NENESW	25	14N	9W	LEWIS AND CLARK
Diversion Means: INSTREAM						
4		NENWNE	36	14N	9W	LEWIS AND CLARK
Diversion Means: INSTREAM						
5		W2NENE	36	14N	9W	LEWIS AND CLARK
Diversion Means: INSTREAM						

Period of Diversion: MAY 1 to OCTOBER 4

Purpose (Use): IRRIGATION
Irrigation Type: FLOOD
Climatic Area: 5 - LOW
Volume: 422.24 AC-FT
Period of Use: MAY 1 to OCTOBER 4
Place of Use:

ID	Acres	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1	143.00		SW	25	14N	9W	LEWIS AND CLARK
2	41.00		W2SE	25	14N	9W	LEWIS AND CLARK
3	24.00		N2N2	36	14N	9W	LEWIS AND CLARK
Total:	208.00						

***Purpose (Use):** FISHERY **Purpose Clarification:** INSTREAM FLOW
Volume: 2,400.71 AC-FT
Period of Use: MAY 1 to OCTOBER 1
***Place of Use:**

ID	Acres	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1			W2SE	25	14N	9W	LEWIS AND CLARK
2			NENESW	25	14N	9W	LEWIS AND CLARK
3			NENWNE	36	14N	9W	LEWIS AND CLARK
4			W2NENE	36	14N	9W	LEWIS AND CLARK

REISSUED RIGHT
THE RIGHT ISSUED ON 06/16/2003 WAS REISSUED.
THE RIGHT WAS REISSUED BECAUSE A POINT OF DIVERSION NEEDED TO BE IDENTIFIED FOR THE INSTREAM FISHERY USE AND A PROJECT COMPLETION NOTICE DEADLINE WAS REQUIRED. .

WATER MEASUREMENT REQUIREMENT - UNIQUE TYPE
PER MCA 85-2-439, THE APPLICANT WILL BE RESPONSIBLE FOR MEASURING AND RECORDING THE AMOUNT OF WATER LEFT INSTREAM TO BENEFIT THE FISHERIES RESOURCE. THE APPLICANT MUST SUBMIT SAID RECORDS BY NOVEMBER 30TH OF EACH YEAR AND/OR UPON REQUEST TO THE WATER RESOURCES REGIONAL OFFICE.

Poorman Creek instream flow

THE INFORMATION SHOWN BELOW REFLECTS THE ENTIRE WATER RIGHT.
AN ASTERISK (*) HAS BEEN PLACED NEXT TO EACH ITEM ALTERED BY THIS CHANGE AUTHORIZATION.

Water Right Number: 76F 97790-00 STATEMENT OF CLAIM
Version: 2 -- CHANGE AUTHORIZATION
Status: ACTIVE
Owners: CHARLES E GRANTIER JR
PO BOX 817
LINCOLN, MT 59639
Priority Date: JULY 22, 1889
Enforceable Priority Date: JULY 22, 1889

Purpose (use): IRRIGATION
FISHERY
Maximum Flow Rate: 8.91 CFS
Maximum Volume: 2,482.35 AC-FT
Maximum Acres: 132.00
Source Name: POORMAN CREEK
***Point of Diversion and Means of Diversion:**

ID	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1		SENE	36	14N	9W	LEWIS AND CLARK
Diversion Means:	PIPELINE					
2		W2SE	25	14N	9W	LEWIS AND CLARK
Diversion Means:	INSTREAM					
3		NENESW	25	14N	9W	LEWIS AND CLARK
Diversion Means:	INSTREAM					
4		NENWNE	36	14N	9W	LEWIS AND CLARK
Diversion Means:	INSTREAM					
5		W2NENE	36	14N	9W	LEWIS AND CLARK
Diversion Means:	INSTREAM					

Period of Diversion: MAY 1 to OCTOBER 4

Purpose (Use): IRRIGATION
Irrigation Type: FLOOD
Climatic Area: 5 - LOW
Volume: 267.96 AC-FT
Period of Use: MAY 1 to OCTOBER 4
Place of Use:

ID	Acres	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1	41.50		W2SE	25	14N	9W	LEWIS AND CLARK
2	80.00		E2SE	25	14N	9W	LEWIS AND CLARK
3	10.50		N2NENE	36	14N	9W	LEWIS AND CLARK
Total:	132.00						

***Purpose (Use):** FISHERY **Purpose Clarification:** INSTREAM FLOW
Volume: 2,214.39 AC-FT
Period of Use: MAY 1 to OCTOBER 1
***Place of Use:**

ID	Acres	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1			W2SE	25	14N	9W	LEWIS AND CLARK
2			NENESW	25	14N	9W	LEWIS AND CLARK
3			NENWNE	36	14N	9W	LEWIS AND CLARK
4			W2NENE	36	14N	9W	LEWIS AND CLARK

REISSUED RIGHT
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WATER MEASUREMENT REQUIREMENT - UNIQUE TYPE
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STATE OF MONTANA
DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION
1424 9TH AVENUE P.O.BOX 201601 HELENA, MONTANA 59620-1601

GENERAL ABSTRACT

Water Right Number: 76F 77575-00 PROVISIONAL PERMIT
Version: 1 -- ORIGINAL RIGHT
Version Status: ACTIVE

Owners:
PARCS 2.0 LLC
C/O LEIGH H PERKINS, JR.
178 CONSERVATION WAY
ARLINGTON, VT 05250-4465

OWNERSHIP UPDATE PROCESSED TO ADD NEW OWNERS. THE WATER RIGHT MAY BE SPLIT INTO SEPARATE WATER RIGHTS UPON REQUEST OF THE OWNERS.

Priority Date: MARCH 28, 1991 at 03:30 P.M.
Enforceable Priority Date: MARCH 28, 1991 at 03:30 P.M.
Purpose (use): IRRIGATION
Maximum Flow Rate: 1,200.00 GPM
Maximum Volume: 400.00 AC-FT
Maximum Acres: 270.00
Source Name: POORMAN CREEK
Source Type: SURFACE WATER

Point of Diversion and Means of Diversion:

ID	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1		NWNWSW	25	14N	9W	LEWIS AND CLARK

Period of Diversion: MAY 1 TO OCTOBER 1
Diversion Means: PUMP

Purpose (Use): IRRIGATION
Irrigation Type: SPRINKLER
Volume: 400.00 AC-FT
Period of Use: MAY 1 to OCTOBER 1

Place of Use:

ID	Acres	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1	120.00		SW	25	14N	9W	LEWIS AND CLARK
2	150.00		N2	36	14N	9W	LEWIS AND CLARK
Total:	270.00						

Geocodes/Valid: 05-2336-25-3-01-01-0000 - Y 05-2336-36-2-01-01-0000 - Y

Remarks:

THE WATER RIGHTS FOLLOWING THIS STATEMENT ARE ASSOCIATED WHICH MEANS THE RIGHTS SHARE THE SAME PLACE OF USE.

77575-00 97787-00

THE WATER RIGHTS FOLLOWING THIS STATEMENT ARE ASSOCIATED WHICH MEANS THE RIGHTS SHARE THE SAME PLACE OF USE.

77575-00 97790-00

THE WATER RIGHTS FOLLOWING THIS STATEMENT ARE ASSOCIATED WHICH MEANS THE RIGHTS SHARE THE SAME PLACE OF USE.

77575-00 97790-00

OWNERSHIP UPDATE RECEIVED

OWNERSHIP UPDATE TYPE DOR # 134654 RECEIVED 07/15/2015.